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ABSTRACT

Several decades of research has demonstrated that students' perceptions about the amount of control they have over academic successes and failures contribute significantly to school performance. This paper reviews research studies that have investigated locus of control and causal attribution in the school setting. Suggestions are made for utilizing the information to foster the following traits in school aged children and adolescents: (1) self-motivated behavior; (2) personal responsibility; and (3) internal locus of control. The essay also discusses how these concerns are addressed by counseling literature. Contains 80 references. (SR)

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Fostering Self Motivated Behavior, Personal Responsibility, and Internal Locus of Control in the School Setting

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Abstract

Research studies over the past four decades investigating locus of control and causal attribution in the school setting are presented. Suggestions are made for utilizing the information to foster self motivated behavior, personal responsibility, and internal locus of control in school-aged children and adolescents. How the counseling literature addresses these concerns is discussed.

Fostering Self Motivated Behavior, Personal Responsibility, and Internal Locus of Control in the School Setting

Fostering the development of self-responsibility for school tasks is often an expressed goal in educating elementary through high school students (Auer, 1990). Several decades of research has demonstrated that students' perceptions about the amount of control they have over academic successes and failures contribute significantly to school performance (Skinner, Wellborn, & Connell, 1990). Students who believe they can produce responses that lead to desired outcomes, have been found to perform better academically than children who do not (Bandura, 1977b).

Owing to the number and diversity of American public school students, it is difficult, if not impossible, to give each student the individualized attention necessary to fully maximize his or her potential. This is particularly true for students who lack personal motivation for school achievement. Zimmerman (1990) asserted that all learners are responsive to some degree during instruction. However, students who display initiative, intrinsic motivation, and personal responsibility, achieve particular academic success.

Students with an internally-oriented locus of control, i.e., those who attribute their achievement to their own ability or effort, rather than to factors beyond their personal control, have been found more likely to be successful in school than students who attribute their achievement to factors beyond their personal control, i.e., those who have an externally-oriented locus of control (Clarke-Stewart & Friedman, 1983; Seligman, 1975; Skinner, Wellborn, & Connell, 1990). Students who think they are personally responsible for their successes have been found to spend more time on homework, try longer to solve complex problems, and get higher grades than students who think events are beyond their personal control (Crandall, Katkovsky, & Crandall, 1965; Franklin, 1963; McGhee & Crandall, 1968). School achievement has been found to correlate more highly with locus of control than with measures of intelligence (Nowicki & Strickland,

1973).

Locus of control has been studied in various educational settings. Students with stronger beliefs in internal locus of control have been found more motivated to achieve success by both cooperative and competitive learning strategies, while students with stronger beliefs in control by chance or fate have been found more motivated to avoid success (Lester, 1992). Students with an internal locus of control have been found more successful in whole language, basal, and eclectic classrooms than students with an external locus of control (Auer, 1990). Students with an external locus of control, when given the opportunity, have been found to set less difficult goals than students with an internal locus of control (Yukl & Lathan, 1978). Self-handicapping students (students who subconsciously create impediments to their performance in evaluative situations) have been found more likely than others to attribute causation for school outcomes to external and unstable characteristics (Murray, 1992). Murray considered the underlying cognitive mechanism of self-handicapping strategies to be a defensive attributional pattern used to protect individuals from making unequivocal causal inferences of inability.

The locus of control construct has been found to have many important implications for education. Students who have an internal locus of control have been found to be more successful in many school arenas than students with an external locus of control. Internal locus of control has been positively correlated with personal responsibility for learning and motivation for academic achievement. The purpose of this paper, therefore, is to present information gathered in studies investigating locus of control, and related constructs, for use by school guidance counselors, in working with students, teachers, and other educators, to help foster internal locus of control, self-motivated behavior, and personal responsibility in the school setting.

Review of Literature

History of Locus of Control Construct

> Some people feel personally responsible for the things that happen to them. These people are labeled *internals*. Others feel that their outcomes are determined by forces beyond their control (e.g., fate, luck, and other people.) These people are labeled *externals*. Obviously, most people fall between the two extremes, forming a continuous distribution of locus of control beliefs. Locus of control is thought to be a relatively enduring dispositional characteristic, although certainly modifiable through experience. (Findley & Cooper, 1983, p. 419)

The locus of control construct, as it applies to school aged children and adolescents, has evolved over time. The original construct derived out of social learning theory (Rotter, 1954). The Rotter Internal-External Locus of Control Scale (Rotter, 1966) is often used to measure locus of control. Rotter defined the locus of control construct as,

> When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his actions, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in external control. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control. (Rotter, 1966, p.1)

Levenson (1973) created a three-factor locus of control scale consisting of 1) internality, 2) control by powerful others, and 3) control by chance. The Rotter and

Levenson locus of control scales were developed for use with adults. Instruments developed for measuring the internal/external construct in children include the Locus of Control Scale devised by Bailer and Cromwell (1961), the Children's Picture Test of Internal-External Control (Battle & Rotter, 1963), and the Intellectual Achievement Responsibility (IAR) Questionnaire (Crandall, Katkovsky and Crandall, 1965). The IAR assesses childrens' beliefs in reinforcement responsibility exclusively in intellectual-academic situations, and limits the source of external control to those persons who most often come in face-to-face contact with a child in the academic arena (i.e., parents, teachers and peers). The IAR was constructed to provide, in addition to a total internal or self responsibility scale, separate subscores for beliefs in internal responsibilities for successes and for failures.

Other models specific for school achievement include the Brookover, Beady, Flood, Schweitzer, and Wisenbaker (1979) model, and the Norwicki and Strickland Internal-External Control Scale for Early Elementary Children (NSIE-EEC) (Norwicki & Strickland, 1973).

Recent studies (Skinner, Wellborn, and Connell, 1990) have also employed a new conception of perceived control, departing from constructs in which internal and external causes are assumed to be inversely related, and thus assessed as a single, bipolar dimension. The new model studies separate dimensions of children's beliefs about internal (e.g., effort) and external (e.g., powerful others) factors as sources of control. Unknown source of control (Connell, 1985), a new feature of childrens' beliefs has also been introduced in the last decade. This concept is defined as the extent to which children report they do not know the causes of school performance (Connell, 1985).

Another construct related to locus of control is the attribution theory of motivation (Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1972). In this theory, Weiner et al. describe *ability* as a stable attribution of internal locus of control, *task difficulty* as a

stable attribution of external locus of control, *effort* as an unstable attribution of internal locus of control, and *luck* as an unstable attribution of external locus of control.

A third construct, self-efficacy (Bandura, 1977a), also addresses issues and concerns related to locus of control. According to Bandura (1977b, 1982), motivation grows out of anticipated positive outcomes, i.e., self-efficacy that one can perform the tasks demanded by the situation, and according to the goals that correspond to personal standards. The most effective means of producing increases in self-efficacy is successful performance of a particular behavior. Self-efficacy can also be increased through vicarious experience involving the observation of esteemed models (Bandura, 1977a). Zimmerman (1992) found that perceived self-efficacy to achieve motivates academic attainment both directly and indirectly, by influencing personal goal setting.

Age and Developmental Considerations

Locus of control is viewed as a characteristic which develops with age. A developmental increase in internality, from elementary aged children through high school, is generally assumed (Lefcourt, 1976; Nicholls, 1978; Rotter, 1966). According to Crandall, Katkovsky, and Crandall (1965), the dependence of young children upon others for instrumental help and emotional support is a necessary condition of early development. However, the resolution of dependence on caregivers, and the concomitant acquisition of independent problem-solving techniques, are equally important requisites of normal personality development. Crandall et al. asserted that it would not be surprising, then, to find that infants and preschool children, if they could report such beliefs, would ascribe reinforcement responsibility to the powerful others in their environment. But with age and experience, most children should begin to feel that their own actions are often instrumental in attaining the reinforcements they receive.

Crandall et al. (1965) assessed the beliefs of elementary and high school students

concerning how and if they, rather than other people, were responsible for their intellectual-academic successes and failures. The authors found self-responsibility to be a characteristic which develops as early as the third grade, and which would possibly be observed earlier, if instruments could be designed to assess it. They suggested that self responsibility for successes and failures may be learned separately, and that children in the lower grades (three through five) may assume more responsibility for one more than the other. Older children in grades six, eight, and ten were found to evidence somewhat more generalization of self responsibility, regardless of the outcome of their efforts.

Kun (1977) found first graders' inferences about levels of effort or ability to conform to what she called a "halo scheme." Effort was judged higher if ability was presented as being higher, and visa versa. Kun considered this consistent with the developmental characterization of centration, i.e., the tendency to see all good things (high ability, effort and outcome) as going together. She found that by the third grade, inferences of effort reflected an "inverse-compensation scheme." Less effort was inferred when an outcome was presented as resulting from high ability. However, ability inferences still suggested a halo scheme; higher effort led to inferences of higher ability.

Nicholls (1978) found elementary and middle school students to expect success due to high effort and low ability to be highly rewarded by teachers. He found older children, with more mature reasoning about ability and effort (ability is correctly inferred from effort and outcome, and outcomes are seen as determined jointly by effort and ability), to see teachers as valuing success due to high ability and low effort less than did younger children, with less mature reasoning about ability and effort. Explanations from the younger children included effort and outcome not being distinguished as cause and effect ("people who try harder are smarter," p.9), and effort as the prime cause of outcomes (equal effort is expected to lead to equal outcomes, irrespective of ability).

Nicholls found third-grade children to consider the harder working of equal scoring

participants to be the more able. Where higher effort resulted in a lower score, however, they identified the higher scorer as more able. Nicholls suggested that understanding that greater ability is required by more difficult tasks develops in the transition from Piaget's (1924) preoperational to concrete operational thought.

Karabenick and Heller (1976) also found inferences about effort more developmentally advanced than inferences about ability. Salili, Maehr, and Gillmore (1976) found that seven-to nine-year-olds reward effort more than do four-to six-year-olds.

Wang and Stiles (1976) investigated the development of self responsibility for school learning in second grade students, randomly assigned to classes using either a Self-Schedule System (in which students were given the opportunity to make their own decisions on when they would do what, although some of what they would do was prescribed by the teacher), or a Block-System (in which a specific time block was designated for working on tasks in each specific subject area). Measures of self-responsibility were made for each student. The authors found significant differences between the two system groups, and concluded that the Self-Schedule System was effective in developing students' abilities to take increasing responsibility for school learning, and in developing the students' perceptions of self-responsibility for their school learning and academic achievement. They also found that students, given the opportunity to be responsible for what and how they were learning in school (i.e., those in the Self-Schedule System group), completed significantly more learning tasks in less time than students in the Block-System group.

Auer (1992) investigated the locus of control of first-, and second-grade students in classrooms where three different instructional approaches for teaching reading were employed: whole language, basal reader and eclectic. Significant differences were found between first- and second-grade subjects on the Language Arts Locus of Control

Questionnaire, regardless of the instructional approach. First-grade students had a significantly more external locus of control than second grade students. However, no significant differences were found in locus of control between first- and second-grade students using the Norwicki and Strickland Internal-External Control Scale for Early Elementary Children. The author suggested that the difference in results using these two different instruments may be explained by the developmental nature of progression in the language arts. Second-grade subjects, being further along in the developmental process of acquiring language arts competencies, may have more control over language arts activities than do first graders, a difference not specifically addressed using the Norwicki-Strickland instrument.

Gender

Crandall et al. (1965) also found sex differences with regard to locus of control. Girls were found to significantly increase their internality for negative events (e.g., losing a game, not being passed to the next grade, not doing as well as usual in a subject at school) from the third to fifth grades, and over the broad span from sixth to twelth grades. The first change took place chiefly between the third and fourth grades. By sixth grade, girls had assumed a level of responsibility for negative events which was slightly higher than boys finally achieve in the twelth grade, and girls scores continued to rise even higher during junior and senior high school. Crandall et.al. considered the difference found in the development of an acceptance of blame in the two sexes congruent with sex differences observed in superego development.

Lenny (1977) found twelve-year-old boys to attribute academic success to ability more often than twelve-year-old girls, while girls attributed success more to effort than did boys. Mc Mahon (1972) found females to use luck as an explanation of their behavior more often than males.

Leyden and Ickes (1977) found sex differences in attributional style that resembled

self-esteem differences. Males, like high self-esteem subjects, considered internal causes for positive events more probable, and all causes for negative events as less probable, than did females. Males adopted a high self-esteem pattern of attributional style, and females adopted a low self-esteem pattern. The authors suggested that masculine sex role identification is highly correlated with self-esteem, and that it is possible that this attributional style is part of the sex role identification that is trained in a child.

Socioeconomic Status

Bailer (1961) and Bailer & Rotter (1963), using the Locus of Control Scale devised by Bailer and Cromwell (1961), and the Childrens' Picture Test of Internal-External Control (Battle & Rotter, 1963), found highly significant social-class differences in school-aged childrens' responses. Crandall et al. (1965) found social class in sixth, eighth, tenth, and twelfth grade subjects to account for only a very small proportion of the variance in IAR scores. Crandall, et al. suggest that this difference may be related to the fact that the Locus of Control Scale and the Childrens' Picture Test of Internal-External Control sample general social experiences, whereas the IAR contains a majority of items directly related to school-associated activities. They postulate that teacher attempts to encourage children of all social classes to achieve an internal orientation to their academic efforts, with statements such as, "If you study hard enough you'll pass the test," and "You can be anything you want if you just keep working toward it" (p. 14.) are perhaps responsible for this difference.

Gardener and Cole (1986) studied locus of control, self concept, and motivation for schooling, in low socioeconomic seventh-grade students identified as being achievers or non-achievers, based on whether or not they were enrolled in compensatory math and/or compensatory reading programs at school. Students identified as being achievers exhibited a significantly greater degree of motivation, and a considerably, though not

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statistically significant, more internally oriented locus of control. Based on the results of this study, the authors suggested educational objectives for all students, but particularly students from low socioeconomic backgrounds, directed at encouraging student control of success/failure, self-concept development, and motivation to achieve.

Brookover, Beady, Flood, Schweitser, and Wisenbaker (1979) described Student Sense of Academic Futility as a sense of helplessness on the part of a student who perceives that nothing he or she does makes any difference, because the system is controlled by powerful others. Brookover et. al. argued that racism, system bias and peer pressures combine to follow efforts to achieve in academic areas with failure or disapproval, and that this sense of futility is reflected in the low degree of motivation in the students in a school. The authors suggested that motivation is a highly alterable, situation-specific learning variable, and that an understanding of the problem of achievement and motivation requires analysis at both the level of the social system and at the individual level.

Miller and Crano (1980) argued that, despite conventional wisdom that says schools cannot overcome the effects of socioeconomic status and race on academic achievement, a growing body of literature indicates that school climate and students' sense of control of their environment are strongly correlated with achievement. Brookover et al. (1979), Epps (1969), and St. John (1971) found students with a strong sense of hopelessness to attribute their low achievement not to poor ability, but to pervasive effects of systematic bias in the school and larger society.

Miller and Crano (1980) suggested that supportive counseling and academic help can, if effective, change the students' perceptions of the degree of system bias, at least in the social system of the school. They argued that providing these interventions would reduce the students' sense of academic futility and increase the liklihood of attribuitions to effort rather than environmental cues. The authors further argued that increasing the

students' perceptions of the importance of school for success in life, particularly for low socioeconomic status students with a high sense of futulity, should change the pre-task interest in school work. Increasing the students' perceptions of the importance of school for success in life should also help change the students' attribution for success in life from uncontrollable ("The system keeps me down") to the controllable element of effort ("My work in school will lead to a good job"). Changing the students' perceptions of individual success or failure to effort rather than environmental cues (system bias). This is a direct attempt to change the negative incentive of attributions to system bias ("Why should I try. The system prevents me from making it no matter what I do.")

Achievement

Auer (1990) found significant differences in the locus of control of low achieving and high achieving students, with high achieving students demonstrating a more internal locus of control, and low achieving students a more external locus of control. Previous research findings are consistant with these results (Bar-Tal & Bar-Zobar, 1977; Findley & Cooper, 1983; Gardner & Cole, 1986; Klein & Keller, 1990; Lewis & Lawrence-Patterson, 1986; Rotter, 1966; Stipek & Weisz, 1981; Wang & Stiles, 1976; Weiner, 1979). Auer concluded that since the goal of educators is to optimize learning, particular support should be given to low achieving students and those who do not accept personal responsibility for their learning. She further concluded that no matter what instructional approach is used in the classroom, it is essential that students' personal control of learning be developed. Auer suggested employing educational programs designed to provide low achieving students with opportunities to exercise control and choice over carefully selected task variables, with constant and immediate feedback on performance, successes, and failures.

Crandall, Katkovsky, and Crandall (1965) suggested that bright children have greater ability to see the causal relationship between the rewards and punishments they receive

and their own instrumental behavior. Also, because the greater adequacy of that instrumental behavior has allowed them to manipulate their behavior more successfully than less bright children, they have had more evidence that they can control what happens to them, and can achieve success more frequently and with greater competence than children with less ability. In addition, brighter children may be able to accept blame for failures they experience because their generally competent behavior has given them sufficient security to do so.

Crandall, Katkovsky, and Preston (1962) studied relationships between academic performance, free-play intellectual behavior, general anxiety, intellectual achievement value, expectancy for success in intellectual achievement situations, minimal intellectual achievement standards, and student belief that he or she, rather than someone else, was the cause of success or failure in intellectual achievement situations, in first, second and third grade students. Significant correlations were found between high expectations for intellectual achievement and high intellectual achievement standards, and student intellectual achievement and belief in self-responsibility for intellectual achievement. The authors concluded that the greater importance the students attached to intellectual achievement, the more they believed that they, rather than others, were responsible for their intellectual achievement.

Skinner, Wellborn and Connell (1990) studied the relationship between perceived control and school achievement in third-, fourth-, fifth-, and sixth-grade students. Three sets of beliefs were distinguished: a) expectations about whether one can influence success and failure in school (control beliefs); b) expectations about strategies that are effective in producing academic outcomes; and c) expectations about one's own capacity to execute these strategies. Statistically significant pairwise comparisons revealed that these elementary students perceived effort as the most effective strategy for influencing school performance, and ability as the second most

effective strategy. Powerful others and luck were not perceived as being very important causes of good grades. Effort was reported as the easiest cause to enact, and ability, powerful others and luck were reported in descending order as being less accessible to them. Verbal and math grades, as well as reading and math achievement scores, correlated significantly with control beliefs, with all of the strategy beliefs except effort, and with all capacity beliefs except luck. The highest correlations were found between achievement and unknown strategy beliefs. Lack of capacity for effort beliefs were only slightly correlated with achievement. These findings are somewhat incongruous with other research findings in which effort has been found to be an unstable attribution proffered by students' internally oriented toward school achievement strategies (Weiner et al., 1975); whereas, they are congrous with studies reporting that students who are high in achievement motivation believe that effort and performance covary (i.e., students believe the harder they try, the more likely they are to succeed) (Weiner & Kukla, 1970). In terms of locus of control and attribution theories, the pattern of findings in the Skinner et al. study suggests that beliefs about internal causes do not seem to promote achievement, although beliefs in external causes do seem to undermine it. The authors conclude that correlations between bipolar measures of locus of control and academic achievement may be due primarily to a negative relationship between the external pole of the measure and school performance.

Learned Helplessness

Abramson, Seligman, and Teasdale (1978) stated that a student's sense of helplessness can be reversed and prevented by experience with success. They further stated that an individual's feeling of helplessness can be mitigated by changing his or her expectation of a situation from uncontrollable to controllable, and that an individual's sense of control over a learning experience is an integral element for success.

According to Skinner et al. (1990) and Seligman (1973), when children believe that

they can exert control over success in school, they perform better on cognitive tasks. When children succeed in school, they are more likely to view school performance as a controllable outcome. The cyclicity implied by these relationships suggest that children who are not doing well in school will perceive themselves as having no control over academic successes and failures, and that these beliefs will subsequently generate performances that serve to confirm their beliefs.

Dweck (1975) showed that students who had been identified as helpless could be taught to attribute their failure to lack of effort, and thereby improve their performance through persistance. He suggested that an instructional program for children who are at risk for failure should not gloss over students' errors, but instead, should include procedures for training the students to deal with their errors directly, and view errors as vehicles for teaching children increased responsibility for their own behavior.

Miller and Crano (1980), in reviewing research investigating school-related strategies within the theoretical framework of attribution theory, concluded that improving students' technical test-taking skills should result in increased expectancy of success. Students, in turn, should be more likely to attribute success to skill, a component of the stable controllable element, personal competence, and indicate increases in the affective response of pride. The authors concluded that the combined effect should be greater motivation, while conversely, the students' sense of futility should be reduced, as attributions are made to controllable rather than uncontrollable elements. The authors suggest teaching students how to "psych up" for a test, as an athlete does for a game, to increase the students' confidence and reduce anxiety. They argue that students would therefore be more likely to attribute their performance to their own competence and effort, rather than the uncontrollable factors of task difficulty (the test) or environmental cues ("tests are biased," "unfair," etc.). The authors concluded that the result should be greater expectancy of success, and increased motivation.

Nunn and Parish (1992) studied the psychosocial characteristics of high school students identified for being at risk for school failure, as indicated by their having a history of unexcused absenses/tardies, well below average school performance and/or behavioral/disciplinary problems. The authors found these at risk students to have a locus of control that was significantly more externally oriented than a control group of not-at-risk peers. They suggested that an external belief system is passive, other-oriented, and avoidant in nature, and recommended providing for at risk students carefully monitored experiences which demonstrate the relationship between behaviors and both good and bad outcomes.

Feldman, Saletsky, Sullivan, and Theiss (1983) found that a concrete and direct approach was beneficial in helping students remove dysfunctional expectations. Such an approach was also beneficial in helping students learn that they could control their performance.

Nicholls (1978) found non-competitive learning arrangements likely to foster attributions, and affective concommitants of attributions leading to effort in low, as well as high, achievers. Ames, Ames, and Felker (1977), Dweck (1975), and Dweck & Goetz (1978) found normative evaluation likely to produce attribution of failure to lack of ability, and therefore lead to learned helplessness, and mastery learning likely to lead to attribution of failure to lack of effort. In reviewing these studies, Auer (1990) concluded that competitive schooling seems bound to produce increases of learned helplessness in low achievers.

Nicholls (1978) also found the higher motivation of high achievers to appear dependent on the presence of low achievers, for whom the presence of high achievers leads to a lack of motivation. Nicholls concluded that the apparent inevitability of this inequality of effort, however, may be limited to schools that emphasize social comparison and normative evaluation.

Gnagey (1979) found high school students identified as being classroom inhibitors to feel less responsible for what befalls them (i.e., to have a more external locus of control) than their facilitator peers. He suggested that this is another example of learned helplessness, resulting from a long history of academic (and perhaps other) failure. Gnagey suggested that a more concentrated and individualized approach to teaching may help disruptive students become more academically successful. He stated that reducing
school-related frustration might be beneficial, and suggested encouraging disruptive students in attaining a more internal locus of control.

Self Esteem

A number of studies have found that high and low self-esteem subjects differ in their response to success and failure experiences (Shrauger & Rosenberg, 1970; Maracek & Mattee, 1972; Ryckman & Rodda, 1972; Perez, 1973). Success feedback tends to increase the performance and future expectancies for success of high self-esteem subjects, but not for low self-esteem subjects. Failure feedback decreases the performance and future expectancies of success for low self-esteem subjects, but not high self esteem subjects (Leyden & Ickes, 1975).

Differences in attributions for success and failure experiences for subjects who differ in self-esteem have also been found. Solley and Stagner (1956) found that high self-esteem subjects, when confronted with insoluble anagrams, made remarks which indicated that they were externalizing the cause of failure (e.g., "Is this a word?" "Is this English?"), whereas low self-esteem subjects confronted with the same anagrams made remarks which indicated that they internalized the cause of the failure (e.g., "I must be stupid.").

Fitch (1970) found that for failure on a laboratory task, low self-esteem subjects made more internal attributions than high self-esteem subjects. For a success

experience, low self-esteem subjects made fewer internal attributions, though this effect was not statistically significant.

Leyden and Ickes (1975) found high self-esteem subjects to readily take responsibility for the occurrence of positive outcomes and to ascribe the cause to internal factors. Low self-esteem subjects were much less likely to have these perceptions. For negative events, high self-esteem subjects either ascribed the cause to external factors, or rated all factors as improbable for failure. Low self-esteem subjects were much more likely to take responsibility upon themselves for these outcomes. Leyden and Ickes postulated that the performance decrement often observed for low self-esteem subjects following failure is a function of internalizing the cause of that failure, and not of their self-esteem per se. They concluded that, "students for whom success appears to be a lucky accident while failure seems to be caused by stable personality traits, must have enormous difficulty maintaining any substantial amount of positive self affect (p. 12)."

Teacher Contingency and Involvement

Skinner, Wellborn, and Connell (1990) investigated relationships among elementary school students' perceived control, active engagement in learning, and teacher contingency and involvement. Teacher contingency was defined as interest in, and dedication of resources to, the student. The authors found that the lower the teachers' contingency and involvement, the less the children reported the capacity to execute strategies for achieving success and avoiding failure in school.

The authors make several conclusions. Both teacher contingency and involvement play a role in supporting childrens' engagement in learning situations. Contingency provides the structure within which children can learn "what it takes" (p. 8) to do well in school. The experience of highly contingent teacher behavior is associated with childrens' positive control beliefs concerning academic outcomes. Teacher

noncontingency is related to childrens' beliefs organized around powerful others, luck, or unknown strategies. Teacher involvement is positively associated with childrens' beliefs about effort as an effective school strategy, and the childrens' perceived capacity to enact the most successful strategies.

Skinner et al. (1990) found a relatively open system of beliefs and performance to exist for elementary school students, in which beliefs about control are calibrated on the basis of the teacher's behavior and indications of academic performance. The authors stated that observed feedback loops suggest that an ongoing task of children during the elementary years is to form a map of strategies that lead toward success and away from failure, and to establish a sense of their own capacities to enact those strategies. Skinner et al. held that perceived control contributes to school performance by promoting or undermining children's engagement in learning situations, and teacher behavior can have important impact on children's perceptions of control. The authors concluded that high perceived control is a necessary, but not sufficient, condition for engagement in learning activities, and cautioned that even when children have beliefs that should promote engagement, if they feel pressured to perform (i.e., have low perceived autonomy), or alienated from their teachers (i.e., have low relatedness), they may not fully engage in school.

Other researchers have investigated the relationships among contingency, academic engagement, and performance, and found harmful consequences of noncontigent environments for both student engagement and performance (Gunner, 1979; Seligman, 1981; Watson, 1979).

Lamb and Easterbrook (1981) cautioned that although contingency is a necessary condition for the perception of control, the content of the caregiver's behavior is important as well. Two teachers may respond with high contingency to a child's request for help, but one may respond by helping, the other by chastising.

Feedback

Miller (1981) found that praising students for uncontrollable elements of a task increased and reinforced their sense of futility ("Nothing I do makes any difference," p. 29). Miller also suggested that making ambivalent distinctions between correct and incorrect answers, and positively reinforcing students for incorrect answers, encourages them to attribute such praise to sources outside their control ("the teacher praises everyone," p. 29), for outcomes that are not related to achievement ("the teacher praises me for answering whether I'm right or not," p. 29). Miller further suggested that attributions to uncontrollable sources do not increase an expectancy of success or a sense of achievement. In such cases, if greater effort is not rewarded, attributions of lower ability may result. Miller stated that students who are praised for specific accomplishments are likely to attribute the praise to their own ability or effort. The attribution of success to effort or ability results in increased expectancy of future success and increased sense of achievement. This, in turn, leads to higher motivation. On the other hand, indiscriminate praise is likely to be attributed to factors outside the student's control, such as teacher behavior, or the level of difficulty of the task. Miller further cautions that a student who attributes praise to an easy task, may reason that the teacher thinks the student is not capable of receiving praise for more difficult work.

Cooper (1980), in studying whether teacher beliefs about future student performance influences subsequent student performance in third-, fourth-, and fifth-grade students, found teacher feedback to students for whom they have low expectations more contingent on following teacher directions and working on appropriate tasks, than feedback to students for whom they had higher expectations. Those students whose successes were seen by their teachers as more often caused by teacher-related factors were the students who received the most praise. The relationship between teacher-causes and praise given to students was greater for students for whom teachers had low

expectations than for students for whom teachers had high expectations.

The author concluded that low expectation students' successes may be caused more by help from, and obedience to, the teacher, which lead to sustaining different levels of achievement for high and low expectations students, based on the different teacher reinforcement contingency found. If praise in classrooms is dependent on high teacher involvement, this may be more true for low than high expectation students. Teachers may believe that the more control a context affords them over low expectancy students, the more likely it is that the exchange will be beneficial. Thus, the self and teacher perception of low achievers as less able to influence outcomes may be an accurate reflection of their school environment.

Cooper also found, in assessing individual teacher behaviors, that teachers who gave the most negative feedback cited lack of effort for student failures, and those who gave the most praise, least often cited external teacher-related factors for student successes. This, as Cooper noted, is in keeping with attribution theory of achievement motivation (Weiner et al., 1971), and encourages students to develop self-responsible, motivated achievement behaviors.

Other researchers have addressed the relationship of feedback to locus of control. According to Crandall et al. (1965), individuals have been found to differ in the degree to which they believe that they are usually able to influence the outcome of situations. They may believe that their actions produce the reinforcements which follow their efforts, or they may believe that they receive rewards and punishments at the discretion of powerful others, or at the hands of luck or fate. The same reinforcement, in the same situation, may be perceived by one individual as within his or her own control, and another as outside his or her own influence. These personal beliefs could be important determiners of the reinforcing effects of many experiences. If, for example, individuals are convinced that they have little control over the rewards and punishments they

receive, then they have little reason to modify their behavior in an attempt to alter the probability that those events will occur. Rewards and punishments will have lost much of their reinforcing value, since they will not be as effective in strengthening or weakening a subject's response.

Glasser (1986b) disputed the benefits of using a stimulus-response model in motivating students to perform well in school, and asserted that the use of this model is worsened by the fact that educators tend to punish far more than reward, especially in secondary schools. He writes:

> I think the evidence is quite clear that punishment is not a good long-term motivator for anyone, and it is long-term, not short-term, motivation that is needed in school. Most of the students who are not working have suffered so many threats and punishments (and often been bribed at home with promises of money or cars) that they have become immune. Very few will make any long-term change no matter what we do that is to them or for them. (p. 12)

Leyden and Ickes (1977), in studying the relationships between self esteem, sex, and attributional style, found feedback to be a crucial factor in performance, and that divergent responses to feedback occurred depending upon the type of feedback given and the subject receiving the feedback. The authors concluded that negative feedback is not universally effective in increasing performance or self evaluation in others, and that negative feedback in many cases is dramatically counterproductive to goals of improving performance and self esteem. They recommended that special consideration should especially be given before negative feedback is used with individuals who have low self-esteem or who internalize failure.

Instructional Approach

Auer (1992) assessed the locus of control of first- and second-grade students in

identifiable as being reserved for success-approaching efforts and outcomes. It has been shown to be beneficial for teachers to be aware of whether they use praise more often for students who are succeeding for teacher-related reasons, for using praise in this manner may encourage other-oriented locus of control. It has also been shown to be beneficial for educators to assess whether they praise students for whom they have low expectations differently than students for whom they have higher expectations, for praising low achieving students for low-achieving outcomes may compel them to feel incapable of higher achievement. The disadvantages of exerting more control over low-achieving than higher-achieving students have also been identified, and it has been pointed out that such an approach may be detrimental to a student's developing sense of mastery, self-responsibility, and self-control for school-related activities.

It has also been pointed out that rewards and punishments might be experienced differently by students with different perceptions of personal control (Crandall et al., 1965), and that neither is of great reinforcement value when a student has no belief that he or she can control outcomes to seek reward or avoid punishment. It has further been noted that punishment is not a long-term motivator (Glasser, 1986), that negative feedback is not universally effective in increasing performance or self-evaluation, and that special consideration should be made before negative feedback is given to individuals who have low self-esteem, or who internalize failure (Leyden & Ickes, 1977).

A positive cycle has been demonstrated, where students believing they can exert control over success in school leads to experiences of greater school success, which, in turn, leads to greater belief that they can exert control. One could argue that encouragment anywhere in the cycle will be beneficial. Given this, students should be encouraged in their belief that they can exert control over school-related activities, and ample activities which allow students to experience school success should be provided.

If students who believe they possess high ability perform better academically, then

school activities appropriate for allowing students to infer ability should be provided. These activities should, owing to what has been learned about teacher contingency, have clear and consistant guidelines and feedback. They should, owing to what has been learned about self-responsibility and self-direction, allow for considerable student choice, but, owing to what has been learned about differences between students internally and externally locused in control, they should also take into account problems externally-oriented students might have with lack of structure.

Because locus of control has been identified as having developmental considerations, curricula that are also developmental with regard to fostering personal responsibility should be implemented. Younger children have been shown to be more externally oriented in locus of control, and to have less understanding of how ability, effort and outcomes interrelate. Developmental curricula, directed at providing teaching environments appropriate for fostering student responsibility and experiences of success in achievement at different grade levels, should be introduced or incorporated into existing curricula.

Auer (1990), in not finding significant relationships between first- and second-grade students taught in whole language versus basal instructional approach classrooms, argued that perhaps three years is not enough time for an educational approach to significantly effect locus of control. A sustained, long-term developmental curricula, which takes locus of control into account for all instructional formats, might be indicated.

Auer also concluded that teachers need to do more to develop an internal locus of control in their students, and in particular, their low-achieving students. All teachers, no matter what instructional practices they employ, need to be aware that low achieving students often do not "own" their success and failures, that all students need ample experiences of success to infer ability, and that sufficient time has to be allowed for assisting low-achieving students to take personal control of their academic activities.

Taken together, these studies indicate that school activities in which children are encouraged to exert personal control and self responsibility for learning tasks with clearly identified goals, and which provide ample opportunity to infer ability from success, are beneficial for helping to foster internally locused causal attributions and self efficacy. These studies also indicate that educators should consistently praise effort and movement toward achievement, and should acknowledge that students with differing orientations to locus of control (i.e., internal vs. external) may respond differently to instructional approaches. Extending these considerations beyond the classroom and into the school community and culture as a whole might also be beneficial.

Many tools for fostering internal locus of control and self efficacy exist in the counseling literature as well. Counselor-counselee relationships that are non-hierarchical, that advocate shared responsibility for counseling outcomes that are based on counselee-identified goals, and that help counselees overcome obstacles to achieving personally identified goals, foster internal locus of control, and give counselees opportunities to experience self efficacy.

Carl Rogers (1961) described people who are becoming increasingly actualized as having: a) an openness to experience, b) trust in themselves, c) an internal source of evaluation, and d) a willingness to continue growing. These are principles compatible with internal locus-of-control and self-motivated behaviors, and encouraging these characteristics is the basic goal of person-centered therapy (Corey, 1991).

In using Reality Therapy, Glasser (1986a) asked his clients, "Is what you are doing getting you what you want?" In Control Theory in the Classroom, Glasser (1986b) argued for motivating students by empowering them with the responsibility for learning. This, too, is in keeping with principles of self-motivated behavior, and personal responsibility for school achievement. Glasser recommended motivating students by establishing learning teams, designed to meet student needs for belonging, power, friendship, and achievement.

Glasser also recommended democratic teachers rather than autocratic ones.

Self-control procedures found in Cognitive-Behavioral Therapy, such as self-evaluation and self-reinforcement, can be used to facilitate self responsibility (Thompson & Rudolph, 1992). Omizo, Cubberly, and Omizo (1985) studied the impact of Rational-Emotive Education (REE) on self-concept and locus of control in children with learning disabilities. The REE objectives of the experimental group were: a) learn the ABC format (Ellis, 1972), b) acquire basic problem-solving skills, c) demonstrate that feelings are influenced by thoughts, d) understand that feelings are not expressed in identical ways, e) transfer learning to real life, f) develop rational coping skills, g) learn expression of feelings, not generalities, h) be empathic to other group members, and i) learn to dispute irrational thoughts. The experimental group differed significantly, in a positive direction, from the control group on three of five self-concept subscales, and on the locus of control measure. Omizo, Lo and Williams (1986) reported success in using REE with learning-disabled adolescents. The treatment group emerged with lower levels of anxiety and higher levels of aspiration, leadership, initiative, and internal locus of control.

Zoints (1983) proposed a strategy for implementing REE in the classroom, in which he recommended programs be carried out in problem-solving, group discussion formats, with the teacher taking an active/directive role. Zoints gave as an example the teacher challenging students with such questions as, "How does failing a test make you a dumb jerk?" Discussions such as these, given research in locus-of-control and attribution theory, provide opportunity to encourage students to move away from internal, stable attributions of ability ("I'm stupid") to internal, unstable attributions of effort ("If I try hard, I can do better.") Such discussions also give teachers opportunities to assess the effectiveness of their instructional and evaluative procedures, with individual students, and in light of opportunities they afford students to experience academic success.

Concepts found in Behavioral Therapy also have implications to locus of control. According to Thompson and Rudolph (1992), training in self-management skills has proven to be a successful application of behavioral principles to counseling children, and the ultimate outcome of behavioral counseling with children is to teach them to become their own behavior-modification experts, i.e., to program their own reinforcement schedules (self management). Thompson and Rudolph further commented that it would be even more desirable to encourage children to move from extrinsic to intrinsic reinforcement, i.e., to please themselves with their behavior rather than to constantly seek the approval of others. The goal in behavioral contracting with school children is to gradually replace extrinsic positive reinforcement from parents and teachers with a self-reinforcement system that facilitates development of a sense of intrinsic reinforcement (Thompson and Rudolph, 1992). This advise is all very much in keeping with the principles of fostering internal locus of control.

Levine and Fasnacht (1974) cautioned that reinforcement methods may serve to extinguish desired behavior when the reward replaces any intrinsic reward a person might receive from engaging in the desired behavior. The authors give as an example if parents reward or reinforce a child's piano practicing, the message to the child may be that piano playing is not worth doing without pay, and therefore is not worthwhile in itself. A similar argument might be made for parents and teachers rewarding academic achievement.

Role playing, used in many therapeutic models, can be used to facilitate progress in self-management programs and movement toward self-responsibility and internally oriented locus of control. For example, students can explore internal, external, stable and unstable attributions for success and failure scenarios.

Sentence completions, found in Gestalt and other therapeautic models, can be a way of encouraging clients to examine personal responsibility for the way they manage

their lives. For example, "Right now I'm feeling _____, and I take _____ per cent responsibility for how I feel" (p. 115) can be used with clients who tend to view outside sources as the total cause of their good and bad feelings (Thompson and Rudolph, 1992).

The notion of choice, perhaps most identified with Reality Therapy (Glasser, 1965), and Adele Faber (1980) has become very widely used by both parents and educators. Giving students choices, and reminding students that behaviors and feelings reflect choices and have consequences, facilitates movement toward internally locused attributions such as "If I (choose to) try hard, I will have a better chance of succeeding."

Modeling internal locus of control around choices can also be done, by "thinking out loud" in front of students, using statements such as, "I have a choice here. If I really work hard at this, I'll have a better chance of getting what I want, than if I just sit back and hope it will happen." According to the literature review in this paper, such self statements reflect an internally-oriented locus of control and a sense of self-efficacy that is in keeping with an increased likelihood of positive school achievement. Encouraging such self statements in students should contribute as well to the overall feeling of being "lovable and capable" that counselors are often working to foster.

Further Research

Because researchers have found conflicting results in studies investigating how different instructional approaches (e.g., whole language vs. basal) influence locus of control, further investigation for possible advantages of using one approach over another would be beneficial. In light of research concluding that perhaps the type of learning tasks (e.g., open vs. closed) and/cr the opportunities learning tasks afford students to experience successful outcomes are more important in fostering internal locus of control and self motivated learning behaviors than are instructional approaches,

investigating these would be beneficial, as well.

How age and developmental level affect the appropriateness of various instructional approaches should be assessed. Because different age and developmental level subjects have been used across the various studies, further understanding of how each variable investigated specifically relates to each age and/or developmental level would be helpful. Interactions of instructional approaches from one developmental level to the next should also be assessed. Replicating studies, investigating various instructional approaches with teacher effectiveness, and familiarity and comfort level for the approach being measured, controlled for so as not to significantly influence the results, would give useful information.

How differences in age, developmental level, gender, ethnicity, and SES effect locus of control should be further investigated. Ways of appropriately addressing differences, both to meet the needs of individual students, and encourage self-directed behaviors that are oriented toward achievement should be identified.

Particular attention should be paid to studying how teacher behaviors effect student locus of control and achievement. Studies designed specifically to define and highlight differences between praise and encouragement, which identify where each is best used, would also be helpful.

Further research should also address considerations of how cultural diversity relates to locus of control in the educational arena. Hudgens (1993), in studying the relationship of cognitive style, planning ability, and locus of control to achievement for Anglo, African-American, and Hispanic middle and secondary school students, concluded that learning style preferences and locus of control are differentiated by culture and gender. Hudgens recommended assessing curricula and teaching methods in light of the need to accommodate these differences, and the use of curriculum materials that legitimize multiple problem-solving approaches.

Little Soldier (1989) wrote:

> Traditional Native American families encourage children to develop independence, to make wise decisions and abide by them. Thus, the locus of control of Indian children is internal rather than external, and they are not accustomed to viewing adults as authorities who impose their will on others. Native American students entering school for the first time may respond with confusion and passivity to an authoritarian teacher who places many external controls on them. (p. 162)

Corey (1991) cautioned that a limitation in applying the person-centered counseling approach to some ethnic clients is the fact that the person-centered approach extols the value of an internal locus of evaluation. Corey pointed out that some ethnic groups value an external locus of evaluation (for example, looking to traditional expectations for direction and stressing the common good over individual development). These considerations should be borne in mind while assessing the educational arena, as well.

How locus of control relates to goals in education that focus on students becoming effective national citizens should also be explored. Areas for investigation should include relationships between locus of control and such characteristics as risk taking, creativity, reliability, and productivity.

Overall, many of the research findings reported in this review support the benefits of many current teacher-student interactions and instructional approaches. These practices should be highlighted, better investigated, and encouraged. Considerable information is available, however, to suggest reassessing some educational practices in light of how they encourage or deter the development of personal responsibility, self-motivated academic achievement, and internal locus of control. This information should be highlighted, as well. Educators need to critically analyze available research to determine the best practices for helping students make the most of the educational

system, maximize their individual potentials, and make responsible and informed personal, educational, and career decisions.

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